Overview

- Summary of Current Activities
- Testbed RTI Performance Framework
- Testbed Status

HLA Testbed Current Activities

- RTI functional testing
  - 1.0 release
  - F.0 ports to SGI, IBM, CORBA Cap
- Interoperability Testing
  - Using federation consisting of Suns, SGIs, IBMs
- RTI Performance Analysis
  - To support performance improvements in the RTI 1.0 release
- Support of HLA Demonstrations
  - I/ITSEC
  - SIW
  - S & T Conference

Performance Metrics

- The HLA Testbed is currently collecting and analyzing the F.0 and 1.0 RTI using several performance metrics
- These are primarily derived from the HLA Performance Framework defined by Srinivasan & Reynolds
- They include
  - latencies (e.g. time from sendInteraction() to receiveInteration())
    - Currently measured in the RTI & Fed ambassadors, and therefore includes RTI and network latencies
  - call rate for specific services(e.g. number of updateAttributeValues() per sec)
  - memory & cpu utilization (rough estimates using using Unix host status utilities, more detail using Quantify)
  - network performance (e.g. % message loss when using best effort delivery)

Performance Metrics(cont'd)

- Currently conducting RTI tests using the above performance metrics
  - Using HelloWorld federations
    - comparing best effort and reliable delivery
    - scaling the number of updates issued in event loop
  - Using Jager federations
    - to examine RTI entity scalability
    - explore upper bounds of RTI performance
  - Using HLA ModSAF and DIS ModSAF
    - to compare DIS and HLA performance

HLA Testbed Status

- RTI 1.0 Performance Analysis Underway
  - Analysis of host and network performance
  - Using Pure Software's Quantify to identify CPU and memory intensive RTI code
  - Supporting validation of HLA Performance Model
- RTI Port Testing Underway
  - Functional testing of SGI, IBM ports, CORBA Cap
  - Using test suites, ModSAF

HLA Testbed Status(cont'd)

- Broader RTI Functional Test Coverage
  - Ownership management testing using enhanced helloworld
  - Time Management testing using HW and test federate scripts
- Improved Test procedures
  - Expanded configuration management to permit incorporation of F.0 ports into Mitre baseline code